DOE Proposal Preparation Guidelines
Jim Weichel

1. Introduction

This document is intended to help people in organizing the effort and in preparing the necessary documents associated with submission of a grant proposal to the Office of Science (SC) in the Department of Energy (DOE). It also includes key Fermilab contacts for various process steps. A sample of a complete proposal document is included in a separate pdf file.

Although there are many details and requirements from the DOE on information to be submitted, it is important to think of the overall package as a reasonably concise explanation, written in a way to convince a combined set of business and technical people (without your level of technical expertise on the subject), that the return (in need and significance, US capability, new invention, state of the art, contribution to the scientific community and/or DOE goals) is worth spending the budget for the proposed work. In addition, the package must convince the reader that it is likely to succeed, given the background and capabilities of the participants.

2. Overview of the Proposal Components

Most proposals are in response to a DOE program announcement that requests proposals in a particular area of need. Those announcements usually have specific information on what the proposals should address, areas of particular interest, maximum dollar amount, evaluation criteria, and other aspects like the period of performance and the types of organizations that could (or are encouraged to) be involved in doing the work and other background information on the program. The program announcement will contain requirements on the format, timing, content, and delivery requirements of the submission.

In any case, the typical components are:

Work Proposal Sheets – Proposal title, institution (applicant) information, abstract, signature, high level budget and equipment required in the proposal. These 2 pages are repeated for each organization to receive funding from the proposal.

Cover Page – Summary of Institutions, Principal Investigator(s), official signers, and table of total yearly funding for each institution. (This essentially summarizes the Work Proposal Sheets and the content, but not the format, may be specified in the program announcement.)

Table of Contents – Covers the number of pages in each of the following sections.

Detailed Budget Pages – A set of yearly budget pages, using a specified DOE form (e.g. DOE Form 4620.1) for each funded institution, one page for each project year showing

personnel and equipment. Following each institution's budget pages is a written justification for the budget with assumptions, benefit loading, etc. for that institution.

Abstract – A brief (1 page) summary of the proposed activity, including the intellectual merit and broader impact.

Proposal Document – Around 5 pages (for a small proposal) up to 15 pages (not including references) that generally contains:

1. project description, including the need, objectives and scientific, engineering, or educational significance of the proposed work; relationship to prior funding
2. suitability of the methods to be employed
3. effect of the activity on the infrastructure of science, engineering and education
4. amount of funding required, program of work, and management plan
5. references

Biographical Sketches – For each PI/Co PI and Senior Staff, with list of recent collaborators for each

Description of facilities, equipment, and other resources

Current and Pending Support – List of each PI and other Senior Staff with the support from existing grants and/or support pending from this and other grants (form)

Letters of Collaboration/Support (optional)

3. Proposal Process

There are a set of steps for preparing and submitting a proposal, some of which will require several weeks of calendar time. The largest amount of work is typically writing the proposal document itself, but the official budget should be started in parallel in order to get it officially prepared and approved prior to the final submission date.

Fermilab is required to use the Field Work Proposal (FWP) system (https://www.osti.gov/fwp/about.jsp) to submit proposals to the DOE. This system is not as sophisticated as grants.gov, used by universities, or the Fastlane system provided by the NSF. Unlike these systems, the FWP has no automated forms that produce any of the proposal components so the entire proposal must be created and packaged manually. Only the budget sheets have a specific form that must be used; the exact format of all other components is up to the proposal writers. The Letters of Collaboration/Support are written by the collaborating/supporting organizations.

The steps to complete a proposal to DOE, including the rough time that it should start prior to the submission date are:

1. Identify the team that will develop the proposal. This should always include the PIs and someone for each organization that will contribute effort funded by the proposal.   The Principal PI is the nominal team leader and should lay out the pieces

to be done and assign responsibilities for drafts. Begin at least 1 month before proposal submission and expect more than a week of concentrated effort over that period.

2. The proposal itself normally begins as an outline with key points to be made for each section listed. This outline can be enhanced and eventually fleshed out by the appropriate experts.   Begin this as part of step 1 and continue over ~2-4 weeks.

3. The plan of work in the proposal should be discussed early and each entity with budget effort should contact their financial experts to develop the budget information for each of the proposal years with the proper accounting for inflation and organizational loading.   For the Fermilab Computing Division (CD), Mike Smith is the financial contact with reviews and signoff at the Division level (Victoria White) and for Fermilab (Pier Oddone). Begin as early as possible – at least 3 weeks before submission. (Understand that the budget must be signed by the heads of the organizations involved and the Fermilab budget office and that requires signatures in an approval chain.) Finance will need the following:
   a. Name and title of the PI, Co-PIs, and senior personnel
   b. Names of any specific Fermilab persons who salary will be partially or wholly charged to the project
   c. The time (months), for each year of the project, that each Fermilab person will work on the project , including those months charged to the project and those that are funded by other (name them) projects. This information will be used to generate the "Current and Pending Support" pages.
   d. Certification that the dollar amount of funding for each year has been agreed to if not being derived from c.
   e. A list of any travel and living or other expenses to be allocated for Fermilab personnel
   f. A paragraph summary of the project role of each of the Fermilab people
   g. Details on costs of any equipment that must be obtained.
   h. Before final signoff, they will need the proposal document

4. After the proposal is approved via division and lab signatures, the FWP Lab Administrator (Denise Keiner at Fermilab) does the actual to the FWP system on or before the submission deadline from DOE. The program announcement may also require paper copies and a CD containing the proposal to be sent to the DOE. This will be done in the division office (Velena Sibley).

4. Sample Proposal

The appendix contains a proposal, submitted by the Fermilab in conjunction with Argonne National Laboratory and with a Fermilab PI. This was submitted in response to a Program Announcement to DOE National Laboratories, LAB 09-23, Mathematics for Complex, Distributed, Interconnected Systems from the Office of Science (SC) division of the DOE. This was a Field Work Proposal with the format of the proposal being specified in the announcement. The division office used an NSF form for the Current and Pending Support pages. The appendix is contained in a separate file, Example Complete DOE Proposal.pdf.